

STATUS OF THE CLAIMS

Claim 1-6 (withdrawn)

1. A liquid crystal display device, comprising:
gate wiring and source wiring disposed in a lattice state;
a switching element provided on each lattice point;
a pixel electrode to be connected to a drain electrode of the switching element;
an auxiliary capacitance electrode which is formed in the same manufacturing process as the gate wiring and disposed in parallel with the gate wiring so as to form a storage capacitance which is serially connected to the pixel electrode; and
electrodes which are serially disposed at two different portions on an extension portion of the drain electrode of the switching element in an extending direction and connected to each other via a coupling portion in-between,
wherein:
at least one of the two electrodes which is disposed closer to the switching element is connected to the pixel electrode via a through hole formed in a layer insulating film, and
one of the two electrodes which is disposed more distant from the switching element than the other is stacked via the auxiliary capacitance electrode and an insulating film in-between so as to form the storage capacitance, whereas the electrode disposed closer to the switching element is stacked via an auxiliary capacitance electrode extension portion which is connected to the auxiliary capacitance electrode at an additional coupling portion, and the insulating film in-between so as to form an additional storage capacitance.
2. The liquid crystal display device as set forth in Claim 1, wherein the distantly disposed electrode is further connected to the pixel electrode via another through hole formed in the layer insulating film in-between.

3. The liquid crystal display device as set forth in Claim 1, wherein only the electrode disposed closer to the switching element is connected to the pixel electrode via the through hole formed in the layer insulating film in-between.

4. The liquid crystal display device as set forth in Claim 1, wherein the coupling portion and the additional coupling portion are respectively made of thin lines.

5. The liquid crystal display device as set forth in Claim 1, wherein the two electrodes are pad electrodes, respectively.

6. The liquid crystal display device as set forth in Claim 1, wherein the switching element is a thin film transistor.

Claim 7 (currently amended)

7. (Twice Amended) A liquid crystal display device, comprising:
gate wiring and source wiring disposed in a lattice state;
a switching element provided on each lattice point;
a pixel electrode to be connected to a drain electrode of the switching element;
an auxiliary capacitance electrode which is formed in the same manufacturing process as the gate wiring and disposed in parallel with the gate wiring so as to form a storage capacitance which is serially connected to the pixel electrode; and
electrodes which are disposed in parallel at two different portions on an extension portion of the drain electrode of the switching element in an extending direction and connected to each other via a coupling portion to connect with the drain electrode, and a branch coupling portion which branches off from the coupling portion in-between,

wherein:

said electrodes disposed in parallel are connected to the pixel electrodes via through holes which are respectively formed in a layer insulating film, which is on said electrodes, and stacked via the auxiliary capacitance electrode and insulating film so

as to respectively form the storage capacitances.

Claims 8-10 (original)

8. The liquid crystal display device as set forth in Claim 7, wherein the coupling portion and the branch coupling portion are respectively made of thin lines.

9. The liquid crystal display device as set forth in Claim 7, wherein the two electrodes are pad electrodes, respectively.

10. The liquid crystal display device as set forth in Claim 7, wherein the switching element is a thin film transistor.

Claims 11-16 (withdrawn)

11. A deficiency correcting method of a liquid crystal display device, the liquid crystal display device including: gate wiring and source wiring disposed in a lattice state; a switching element provided on each lattice point; a pixel electrode to be connected to a drain electrode of the switching element; and an auxiliary capacitance electrode which is formed in the same manufacturing process as the gate wiring and disposed in parallel with the gate wiring so as to form a storage capacitance which is serially connected to the pixel electrode,

the liquid crystal display device further including electrodes which are serially disposed at two different portions on an extension portion of the drain electrode of the switching element in an extending direction and connected to each other via a coupling portion in-between,

wherein:

at least one of the two electrodes which is disposed closer to the switching element is connected to the pixel electrode via a through hole formed in a layer insulating film, and

one of the two electrodes which is disposed more distant from the switching element than the other is stacked via the auxiliary capacitance electrode and an insulating film in-between so as to form the storage capacitance, whereas the electrode disposed closer to the switching element is stacked via an auxiliary capacitance electrode extension portion which is connected to the auxiliary capacitance electrode at an additional coupling portion, and the insulating film in-between so as to form an additional storage capacitance,

the method comprising the step of laser-cutting the coupling portion and the additional coupling portion off when a short circuit occurs either between the auxiliary capacitance electrode and the distantly disposed electrode or between the auxiliary capacitance electrode extension portion and the electrode disposed closer to the switching element.

12. The method as set forth in Claim 11, in which the distantly disposed electrode is connected to the pixel electrode via another through hole formed in the layer insulating film in-between, comprising the step of electrically disconnecting the distantly disposed electrode from the pixel electrode when a short circuit occurs between the auxiliary capacitance electrode and the distantly disposed electrode.

13. The method as set forth in Claim 11, wherein only the electrode disposed closer to the switching element is connected to the pixel electrode via the through hole formed in the layer insulating film in-between.

14. The method as set forth in Claim 11, wherein the coupling portion and the additional coupling portion are respectively made of thin lines.

15. The method as set forth in Claim 11, wherein the two electrodes are pad electrodes, respectively.

16. The method as set forth in Claim 11, wherein the switching element is a thin film transistor.

Claim 17 (currently amended)

17. (Twice Amended) A deficiency correcting method of a liquid crystal display device, the liquid crystal display device including: gate wiring and source wiring disposed in a lattice state; a switching element provided on each lattice point; a pixel electrode to be connected to a drain electrode of the switching element; and an auxiliary capacitance electrode which is formed in the same manufacturing process as the gate wiring and disposed in parallel with the gate wiring so as to form a storage capacitance which is serially connected to the pixel electrode,

the liquid crystal display device further including electrodes which are disposed in parallel at two different portions on an extension portion of the drain electrode of the switching element in an extending direction and connected to each other via a coupling portion to connect with the drain electrode, and a branch coupling portion which branches off from the coupling portion in-between,

wherein:

said electrodes disposed in parallel are connected to the pixel electrodes via through holes which are respectively formed in a layer insulating film, which is on said electrodes, and stacked via the auxiliary capacitance electrode and insulating film so as to respectively form the storage capacitances,

the method, when a short circuit occurs between either one of the two electrodes and the auxiliary capacitance electrode, comprising the steps of:

laser-cutting the coupling portion or branch coupling portion that is connected to the electrode on a short-circuited side off; and

electrically disconnecting the electrode on the short-circuited side from the pixel electrode.

Claims 18-20 (original)

18. The method as set forth in Claim 17, wherein the coupling portion and the branch coupling portion are respectively made of thin lines.

19. The method as set forth in Claim 17, wherein the two electrodes are pad electrodes, respectively.

20. The method as set forth in Claim 17, wherein the switching element is a thin film transistor.

Claims 21-30 (withdrawn)

21. A deficiency correcting method of a liquid crystal display device, the liquid crystal display device including: gate wiring and source wiring disposed in a lattice state; a switching element provided on each lattice point; a pixel electrode to be connected to a drain electrode of the switching element; and an auxiliary capacitance electrode which is formed in the same manufacturing process as the gate wiring and disposed in parallel with the gate wiring so as to form a storage capacitance which is serially connected to the pixel electrode,

the liquid crystal display device further including electrodes which are serially disposed at two different portions on an extension portion of the drain electrode of the switching element in an extending direction and connected to each other via a coupling portion in-between,

wherein:

at least one of the two electrodes which is disposed closer to the switching element is connected to the pixel electrode via a through hole formed in a layer insulating film, and

one of the two electrodes which is disposed more distant from the switching element than the other is stacked via the auxiliary capacitance electrode and an insulating film in-between so as to form the storage capacitance, whereas the electrode disposed closer to the switching element is stacked via an auxiliary capacitance electrode extension portion which is connected to the auxiliary capacitance electrode at an additional coupling portion, and the insulating film in-between so as to form an additional storage capacitance,

the method comprising the step of laser-cutting the coupling portion and the additional coupling portion off when a short circuit occurs between the source wiring and the distantly disposed electrode.

22. The method as set forth in Claim 21, in which the distantly disposed electrode is connected to the pixel electrode via another through hole formed in the layer insulating film in-between, comprising the step of electrically disconnecting the distantly disposed electrode from the pixel electrode when a short circuit occurs between the source wiring and the distantly disposed electrode.

23. The method as set forth in Claim 21, wherein only the electrode disposed closer to the switching element is connected to the pixel electrode via the through hole formed in the layer insulating film in-between.

24. The method as set forth in Claim 21, wherein the coupling portion and the additional coupling portion are respectively made of thin lines.

25. The method as set forth in Claim 21, wherein the two electrodes are pad electrodes, respectively.

26. The method as set forth in Claim 21, wherein the switching element is a thin film transistor.

27. A deficiency correcting method of a liquid crystal display device, the liquid crystal display device including: gate wiring and source wiring disposed in a lattice state; a switching element provided on each lattice point; a pixel electrode to be connected to a drain electrode of the switching element; and an auxiliary capacitance electrode which is formed in the same manufacturing process as the gate wiring and disposed in parallel with the gate wiring so as to form a storage capacitance which is serially connected to the pixel electrode,

the liquid crystal display device further including electrodes which are disposed in parallel at two different portions on an extension portion of the drain electrode of the switching element in an extending direction and connected to each other via a coupling portion to connect with the drain electrode, and a branch coupling portion which branches off from the coupling portion in-between,

wherein:

the two electrodes are connected to the pixel electrodes via through holes which are respectively formed in a layer insulating film and stacked via the auxiliary capacitance electrode and insulating film so as to respectively form the storage capacitances,

the method, when a short circuit occurs between either one of the two electrodes and the source wiring, comprising the steps of:

laser-cutting the coupling portion or branch coupling portion that is connected to the electrode on a short-circuited side off; and

electrically disconnecting the electrode on the short-circuited side from the pixel electrode.

28. The method as set forth in Claim 27, wherein the coupling portion and the branch coupling portion are respectively made of thin lines.

29. The method as set forth in Claim 27, wherein the two electrodes are pad electrodes, respectively.

30. The method as set forth in Claim 27, wherein the switching element is a thin film transistor.